

Application No.: 10/669,404
Docket No.: UC0318 US NA

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REMARKS*Status of the Application*

The pending claims are 1-8.

Claims 1-5 stand rejected under 35 U.S.C. § 102.

Claims 1-8 stand rejected under 35 U.S.C. § 103.

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*Claim Rejections - U.S.C. § 102*Sanechika et al.

Claims 1-5 were rejected under 35 U.S.C. § 102(b) as having been anticipated by Sanechika et al., U.S. Patent 5,547,593 ("*Sanechika*") in view of JP 02227285 A. Applicant respectfully traverses this rejection. Before addressing the merits of the rejection, Applicant notes that it is not proper to combine references in a rejection based on § 102(b). It is well established that for a prior art reference to anticipate an invention, the reference must disclose each and every element of the claimed invention. More specifically, for any claim under review to be anticipated under §102(b) by a prior art patent or printed publication, each element (or limitation) of each claim under review must be identically shown in a single reference. These elements must also be arranged as in the claim under review. *In re Bond*, 15 USPQ2d 1566, 1567 (CAFC 1990). Therefore a detailed comparison between the reference and the claims of the invention, with resort to the specification where needed to give proper interpretation to the claims, is necessary to determine whether *Sanechika* does, in fact, anticipate the instant invention. That detailed comparison follows.

Sanechika discloses a lubricant oil composition comprising a fluorine-containing aromatic compound (A), and an alkyl-substituted aromatic compound (B). Compound (B) of *Sanechika* is an oil. See column 33, lines 13-17 of *Sanechika*. Claims 1-5 are directed to a solution comprising an organic active material and a compound having the structure disclosed in claim 1. The organic active material is selected from fluorescent emitters, phosphorescent emitters, charge transport materials and buffer layer materials. The aromatic ring of the compound is substituted with $-OR_f$, $-(R)_m$ and $-X_n$. These substituents are as defined (R_f is a fluorinated side chain, R is an unsubstituted hydrocarbon or oxygen-containing hydrocarbon side chain, and X is optional in that n is 0-4 and may be hydrogen, halogen, or a variety of other side chains). In *Sanechika*, the Formula (A) compound may contain up to 60 carbon atoms and has only one substituent, $-(XR_f)_n$ wherein n is an integer of from 1 to 4. The second component in *Sanechika* is also an aromatic composition, and nowhere is this specified as an organic active material.

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The Examiner has cited *Sanechika* at Col. 35, line 34 to Col. 38, line 23. The compounds depicted in this portion of *Sanechika* are examples of Compound (B) as that term is defined in the reference (it is an oil, as noted above). None of these depict a compound of claims 1-5 as represented by the structure depicted in claim 1. For example, all of the compounds shown in Col. 35 of *Sanechika* lack the required second substituent $-(R)_m$ of the present claims and none show the optional substituent $-X_n$. In Col. 36, Formulae (49) do not qualify because the substituents R_1 , R_2 and R_3 are all alkyl groups having from 6 to 30 carbon atoms (Col. 38, lines 6-7). The remaining structures in Col. 36, lines 5-55, are disqualified either because they are fused or bridged polyaromatics, or because, in the case of the structure shown between lines 50-55, the $-O(R)R'$ group is not fluorinated as the corresponding $-OR_f$ group must be in claims 1-5. There are three remaining structures in Col. 38 between lines 60-65. The first is disqualified since $-R_5$ is alkyl and not fluorinated (Col. 38, line 10). The final structure is disqualified because the side chain corresponding to $-OR_f$ in the present claims is not fluorinated. The remaining structures of Col. 37 have similar disqualifications.

Applicant recognizes that structures such as S8, S12 and S13 can be depicted by the formula set forth in claim 1, but claim 1, as noted previously, is drawn to a solution of the compound and an organic active material. *Sanechika* lacks these elements and therefore does not anticipate claims 1-5.

Applicant respectfully submits that the solutions of currently amended claims are neither disclosed nor suggested by *Sanechika*, and respectfully requests that the rejection be withdrawn.

Claim Rejections – 35 U.S.C. § 103

Claims 1-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Poetsch et al. (U.S. Patent No. 5,348,677). Applicant respectfully traverses this rejection. *Poetsch* is directed to liquid crystal display elements containing a dielectric and at least two LCD components (Abstract). LCDs operate on entirely different principles than do OLEDs, to which the present application is addressed. LCDs use liquid crystal cells, a polarized filter and a reflector. The dielectric cited in the reference is an insulator, such as a capacitor. Changes in the polarization of the cell enable reflected light to pass through the filter, or, alternatively, render the cell opaque to block the passage of light so that the cell remains dark. By contrast, the present application is directed to solutions that are useful for solution deposition (such as coating or printing) of organic active materials on a substrate in the manufacture of OLED devices. See the application at page 1, lines 31-34.

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Applicant respectfully traverses the Examiner's finding that Formula I of the reference teaches compounds having the same structural formula as the claimed compound structure. If $m = 1$ in Formula I, the structure is completely different from anything claimed in the present application. If $m = 0$, then Formula I becomes $R^1 - A^2 - R^2$ wherein A^2 is 1,4-phenylene which may also be heterocyclic (one or two $-CH$ groups may be replaced by N). One of R^1 and R^2 is H, F, Cl, Br, $-CN$, $-NCS$ or un/substituted $C_1 - C_{15}$ alkyl in which one or two methylene groups can be replaced with various moieties shown and the other radical is a C_1 to C_{15} perfluoroalkyl group in which one or more $-CF_2$ units can be replaced by a variety of substitutes listed. See Col. 3, lines 23-66. These combinations of $R^1 - (A^1 - Z^1)_m - A^2 - R^2$ wherein $m = 0, 1$ do not teach the utility of the specific compounds in the present claims as solvents for the liquid deposition of organic active materials in the manufacture of OLED devices. Rather, *Poetsch* explicitly teaches that the various Formula I compounds are used as components of the LCD dielectrics (in other words, these substances are used in forming the insulating component of the LCD device, a component that is entirely lacking in the OLED devices to which the application is addressed). See Col. 2, lines 40-45.

Accordingly, there is no teaching or suggestion in this reference that the compounds of the claims under review would be useful as solvents in liquid deposition OLED manufacture. There is no suggestion of any motivation to modify *Poetsch* to combine Applicant's compounds with organic active materials for liquid deposition of such materials in the process of manufacturing OLED devices. For these reasons, Applicant respectfully requests that this rejection be withdrawn.

Double Patenting

Claims 1-4 are provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claim 15 of copending Application No. 10/669,403. Applicant respectfully maintains the traverse of this rejection on the general principle that the inventions claimed in the copending applications are not the same.

Claim 15 of copending Application No. 10/669,403 is drawn to a *composition* comprising (i) an active material and (ii) *at least one* material selected from compounds of the given structure. Claim 1, by contrast, in this application recites a *solution* comprising (i) an organic active material and (ii) a compound of the given structure. The R_f components are different in that they are limited to C_2 to C_3 fluorinated alkyl in the '403 application but may be C_1 to C_{10} in the present application. In addition, the R substituent is optional in the '403 application whereas it is required in the present application.

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For these reasons, Applicant respectfully submits that this rejection should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the above referenced application is in condition for allowance and a notice of allowance is earnestly solicited.

Respectfully submitted,



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